

a switching TFT controlling a release of the stored charges, the switching TFT having a gate electrode, an insulating layer on the gate electrode, an active layer on the insulating layer, an ohmic contact layer on the active layer, and dual layered source and drain electrodes that are each comprised of a transparent conductive material that extends over and contacts the ohmic contact layer, and a metal material that extends over the transparent conductive material and that wraps around an end of the transparent conductive material to contact the ohmic contact layer.

15. (Amended) A thin film transistor (TFT) sensor, comprising:

a sensor TFT having a gate electrode and spaced apart first and second sensor electrodes;

and

a switching TFT comprised of:

a gate electrode on a transparent substrate;

an insulating layer over the gate electrode;

a semiconductor layer on the insulating layer and adjacent the gate electrode,

wherein the semiconductor layer includes an active layer and an ohmic contact layer;

spaced apart first and second switching electrodes on the semiconductor layer that define a channel region, wherein the second switching electrode electrically contacts the contact layer; and

a storage capacitor having a first storage electrode and a second storage electrode, wherein the second storage electrode of the storage capacitor connects to the first sensor electrode and to the second switching electrode;